DTU Cen- Center for Electron Nanoscopy, Technical University of Denmark-Microscopes and Research Focus

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Poster 1: Electron Microscopy of Soft and Biological Matter at DTU Cen
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The scanning electron microscope (SEM) is a multifold tool that can be used for advanced characterization of soft (low Z) and biological matter. One can easily get a picture worth thousand words with the SEM if the sample is prepared carefully, the right imaging technique and the right signal for detection is pursued. The information in the image can be easily quantified using free software and used as reliable feedback in the corresponding developing process. Moreover, the imaging can be accompanied by elemental microanalysis and in-situ experiments (e.g. physical and mechanical testing) which open up for true dynamic experiments.
We present here a few examples on how SEM can be applied for research on prokaryotes and polymers.

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Center for Electron Nanoscopy, Technical University of Denmark (DTU Cen) is a dedicated electron microscopy facility hosting three scanning electron microscopes, two dual beam microscopes and three transmission electron microscopes. The research focus at DTU Cen is to push the boundaries for electron beam based characterization of materials. The following scientific research areas are currently pursued at DTU Cen:
-Materials Microstructure
Crystallographic orientation and elemental composition at the sub-micrometer scale of e.g. metals, fuel cell materials and semiconductors.
-Soft Materials
Characterization of polymers, foodstuff and biological materials combined with electron spectroscopy on the local scale.
-Functional Nanomaterials
Composition, chemical state and shape of functional nanomaterials, such as catalysts, graphene, carbon nanotubes and semiconductor heterostructures.
-Theory and Modelling
Linking the characterization to the material properties and physics behind.